

**Governor's Upper Yellowstone River Task Force**  
**Meeting Summary**  
**April 29, 2003**  
**Community Room, City/County Courthouse**  
**Meeting began at 7:15 p.m.**

**I.     Introductions**

**Members Present:**

John Bailey, Chair  
Roy Aserlind  
Andy Dana

Jerry O'Hair  
Brant Oswald  
Ed Schilling

Bob Wiltshire  
Jim Woodhull

Ken Britton, USFS Ex-Officio  
Tom Olliff, YNP Ex-Officio  
Frank Preite, USFS Ex-Officio  
Robert Ray, DEQ Ex-Officio

Laurence Siroky, DNRC Ex-Officio  
Allan Steinle, Corps Ex-Officio  
Joel Tohtz, FWP Ex-Officio

**Others Present:**

Liz Galli-Noble, Coordinator  
Kelly Wade, Secretary  
Jim Barrett  
Karl Biastoch  
Scott Bosse  
Karen Boyd  
DeWitt Dominick  
Tom Hallin

Tom Hughes  
George Jordan  
Jay Lehmann  
David Marshall  
Mike Merigliano  
Bill Moser  
Jim Robinson  
Brad Shepard

Daryl Smith  
Jack Stults  
Daryl Stutterheim  
Stan Todd  
Burt Williams  
Ellen Woodbury

**II.    Prior Meeting Minutes**

**Andy Dana moved to approve the April 8, 2003 minutes. Jerry O'Hair seconded the motion. The motion passed unanimously.**

**John Bailey:** I would like to point out one thing, the minutes have been approved as written, but in them, it was pointed out that I called someone "crazy" and I apologize for that. It is what was said, so they will not be amended, but I do apologize.

**III.   Steps for Formal Action on the Task Force Recommendations**

**John Bailey:** For those of you who were not at the last meeting, we spent hours on these *Steps for Formal Action on Task Force Recommendations*. We have already formally approved Steps 1 and 2. We are only talking about Step 3 here tonight, which was rewritten and sent out to the Task Force for review. Is there any discussion about adoption of Step 3 of these Steps for Recommendations or a motion?

**Liz Galli-Noble:** There were no edits returned to me via e-mail, and I put out the request twice.

**John Bailey:** Comments or discussion?

**Bob Wiltshire:** It looked to me to be pretty much what we had discussed, so I'll make a motion that:  
**The Task Force accept Step 3, and as such, adopt the *Steps for Formal Action on Task Force Recommendations* [April 10, 2003 version]. Jim Woodhull seconded the motion. The motion passed unanimously. (See Attachment A.)**

**John Bailey:** One comment, as I was reading this again, and talking to Andy Dana about some other things, I was a little bit unclear about: what happens when we are in Step 2 and we do not come to consensus on a recommendation? If we do not reach consensus in Step 2, we actually then go back into Step 1. There is not going to be a discussion in Step 2; we either get consensus or we don't. If we're going to have a discussion,

we're going to go back into an open forum, which happens in Step 1. That was Andy's understanding. So I just wanted to bring that up, to see if everyone is in agreement with that. One of my concerns was that if we were going back to rework a recommendation, and we stayed in Step 2, then we would be really blocking out public input. I'm assuming that's correct, so I just want everyone to know that.

#### IV. Financial Updates

<b>EXPENDED GRANTS</b>			
<b>Grant Name</b>	<b>Completed</b>	<b>Amount</b>	<b>Study Component</b>
DNRC Watershed Planning Assistance Grant	6/30/99	2,100.00	Physical Features Inventory
DNRC HB223 Grant	7/30/99	10,000.00	Aerial photography
DNRC Riparian/Wetlands Educational Grant	6/30/00	960.99	<i>Hydrologic Response to the 1988 Fires Workshop</i>
DEQ 319 Grant (1 <sup>st</sup> )	9/30/00	40,000.00	Coordinator position
DNRC Watershed Planning Assistance Grant	1/31/01	10,000.00	Watershed Land Use Study
DEQ Start-Up Grant	6/26/01	49,138.00	Coordinator position, Admin secretary, additional cross-sections, operating expenses.
DNRC HB223	10/1/01	6,500.00	Riparian Trend Analysis
BLM Funding	10/26/01	10,000.00	Wildlife Study
DEQ 319 Grant (2 <sup>nd</sup> )	3/21/02	58,000.00	Coordinator position
DEQ 319 Grant (3 <sup>rd</sup> )	9/30/02	44,000.00	Coordinator position
EPA RGI Grant	12/20/02	30,000.00	Geomorphology study
<b>CURRENT GRANTS</b>			
<b>Grant Name</b>	<b>Amount</b>	<b>Spent</b>	<b>Remaining Balance</b>
DNRC RDGP Grant (expires 7/03)	299,940.00	288,621.63	11,318.37
DEQ 319 Grant (4 <sup>th</sup> ) (expires 3/04)	122,200.00	53,215.93	68,984.07

#### V. Other Business

**John Bailey:** Before we move into the research presentation tonight, I want to talk about up coming Task Force meetings. My schedule is such that I may be going overseas in June, SARS may prevent that, but I'm asking if June 3<sup>rd</sup> and 10<sup>th</sup> are possible meeting dates? There would not then be another meeting in June. Michelle Goodwine is available June 2<sup>nd</sup>, 4<sup>th</sup>, or 11<sup>th</sup>. I have to leave on the 11<sup>th</sup> if I do this trip. Sometime in May I have to make a determination. The reason I want to bring it up, before we start losing people, is to see if it is even possible, or not. It may change if I don't go. The question is, can we even do two meetings in those first two weeks of June? One thing it would give us is that we'd have at least three full meetings that, if we wanted to go back to the TAC, we could. Then, we wouldn't have a meeting again until probably that second week in July, because that first one is the Fourth of July. We keep asking "What about the TAC?" If we had that kind of a schedule, it would then allow us to go back to the TAC if we had questions, and give them some time. We can't expect them to meet in a week or ten days. I don't know what people want to do?

**Bob Wiltshire:** Those dates work for me.

**John Bailey:** June 3<sup>rd</sup> and 10<sup>th</sup>? Those are both Tuesdays. Michelle can meet on June 2<sup>nd</sup>, that's a Monday.

**Bob Wiltshire:** The only thing I would add to that is that I like this concept of being able to give the TAC some working time in there. I'm a little concerned though, because of the way we decided we're going to consider topics, I would hope that we could get to most of the topics, so that if there are questions we know them to give them to the TAC.

**John Bailey:** I understand; I think those dates are feasible, so we ought to try to at least get meeting rooms, and at least set it up so they could be done.

**Liz Galli-Noble:** That was June 3<sup>rd</sup> and 10<sup>th</sup>?

**John Bailey:** Yes, or I think June 2<sup>nd</sup> works too, so maybe we do that Monday. Let's at least set them up, and then, as we meet further, we can revise them if we need to. Thank you.

## **VI. Research Presentation #10. Geomorphology Study**

### **1. Meeting Format and Introductions**

**John Bailey:** For anyone who hasn't been to one of these meetings before, the presentation will be made with no interruptions. When the researchers are done, then the Task Force will ask questions and then we will open it up to questions from the public. That will be just for the science part. During the questions session, you can only ask questions of the science. We will then move into a general discussion session, where the Task Force will, again, speak first, and then the public is allowed to speak. During the discussion session, you can talk about more "what ifs", and in a more general sense; but you will be cut off in the first part if you start asking questions that are not related to the research.

Tonight I am making the research team introductions, since Duncan Patten our TAC chair was unable to be here. I'd first like to introduce Jack Stults (DNRC Water Resources Division Administrator), who has provided us with a great deal of help for some time—arranging for DNRC staff to complete the project, and doing much of what will be presented here tonight. We certainly appreciate all your help. Tonight, for those of you who were here in December 2002, Jim Robinson and Chuck Dalby made a presentation that was partially done, and tonight they've come back with a lot more information. I am now going to turn it over to Chuck Dalby [a geomorphologist and research team leader].

### **2. Research Presentation #10. Geomorphic Analysis for the Upper Yellowstone River. See *Attachment B. Historic Channel Changes and Fluvial Geomorphology of the Upper Yellowstone River (Park II)* PowerPoint presentation.**

**Note:** This presentation was videotaped and may be viewed upon request. Contact the Task Force Coordinator if you wish to borrow the videotape.

### **3. Question and Answer Session**

**John Bailey:** Thank you. I will now open it up to questions from the Task Force on the science.

**Bob Wiltshire:** I have a couple of questions. In the work you did on vertical change in the river, it seemed like the best data you had, at this point in time, was from the gauging stations at Corwin Springs and Carter's Bridge?

**Chuck Dalby:** I wouldn't say the best data; I'd say the most specific data. The reason I qualify that is because those gauging stations represent at most a channel reach of several thousand feet, but I think it tells us something.

**Bob Wiltshire:** My question is: how do you account for the bridge effect?

**Chuck Dalby:** What bridge effect?

**Bob Wiltshire:** Well, you told us, as an example, at Carter's Bridge, you gave it a moderate effect on the river there; and so, if the bridge is effecting aggradation or incision isn't that effecting what you're telling us there?

**Chuck Dalby:** I think that the key there is moderate effect. You can look at the bridge and the upstream and downstream accumulations of gravel, and the constriction of the floodway, and make the case for the bridge having an effect on the accumulation of gravel bars up and downstream. But that one to two feet of fluctuation downstream from the bridge gives you sideboards on how significant that vertical effect is.

**Bob Wiltshire:** So, we can't look at the bridge as perhaps a stabilizing structure that's maintaining a more stable river elevation?

**Chuck Dalby:** Given the history of Carter's Bridge, I don't think so. Carter's Bridge in its own right has had severe scour problems. Probably a portion of the downstream island is what used to be between the bridge abutments. If it were the I-90 Bridge, I'd say yes. As a matter of fact—depending on your perspective—if you look at the 1954 photograph, one can argue that the I-90 Bridge and the revetments associated with that, have certainly had a stabilizing effect on the channel; and that that has probably been beneficial to the infrastructure of Livingston. Were the bridge not there, or any of that revetment, the channel would be moving back-and-forth between the anabranches.

**Bob Wiltshire:** Okay. You showed us a slide of the Montgomery/Bufington channel types, and basically—and I may be a little bit off here—but in 1999, somewhere around 20 percent of the river miles were modified. I'm curious if you did the same channel classifications for 1949, and what the difference was?

**Chuck Dalby:** We haven't done that. My strategy is, for the areas where we are doing case history comparisons, to add that in; because it's a question of geomorphic thresholds and significant channel change.

**Bob Wiltshire:** Okay. Well that takes me to my next question. You looked at a whole bunch of things, comparing 1949 and 1999. You looked at channel length, you looked at side-channel length, and all that. I don't have numbers in front of me, but it's my personal perception that a great majority of the bank modifications that were completed between 1973 and 1999 were actually implemented after the 1996/1997 flood events. So, aren't we still to see the impact of those modifications?

**Chuck Dalby:** That's a very good question. I'll have a stab at it and then I'll give Jim Robinson a chance. With the information that we have (the database that we're working with), we are looking at basically the 1999 level of structures on the river. I don't know off-the-top-of-my-head how many of those were constructed post 1996/1997, but in our analysis that's probably the most critical demarcation that we need to make. Even channel projects constructed in the early 1990s, once exposed to the 1996 and 1997 floods, you would expect to see some sort of response. But everything after the 1997 flood, there haven't really been significant flows to show the effects of those, so we have to deal with that very carefully.

**Jim Robinson:** The only thing I wanted to mention, Bob, was that on a reach-by-reach basis, percentage-wise, the increases in stabilization—whether they occurred between 1954 and 1973, or 1973 and 1999—in the case of the Spring Creek reach, much of the riprap was installed by 1973. The same thing with the Eight Mile to Carbella reach, okay?

**Bob Wiltshire:** Yes, I agree with that. As I looked at your numbers, Jim, it was about a 50-percent increase in the Spring Creek reach from 1973 to 1999; there was about a 50-percent increase of riprap. However, there was a 200-percent increase in barbs and other point structures as well. So there certainly was modification during that period of time, significant modification. I have one last question, and again, it's in a different direction.

**Andy Dana:** Bob, may I ask a related question before you go on?

**Bob Wiltshire:** Fine.

**Andy Dana:** Did you choose 1973 and 1999 for your photo coverage, primarily because there was a rather large flood in 1974, and by choosing that timeframe, you're collapsing bank stabilization structures from the three 100-year floods, essentially?

**Jim Robinson:** That decision was based on the availability of photographs that we could actually see the channel structures on, 1973 and 1954. The scale was somewhere on the order of 1:16,000, and so you could actually look with a desktop stereoscope and see this stuff. We got down to 1:30,000 in other years, but the scale was too small; you couldn't pick out the channel structures.

**Bob Wiltshire:** I read your report; thank you. I saw mention in there that you have digitized all the large woody debris, and I'm wondering what you can tell us about the impacts? As I recall, your report said that the impacts were potentially significant.

**Chuck Dalby:** Well, that question gets several answers. If you turn around and look behind you [enlarged orthophoto displayed on the wall], you'll see every piece of large woody debris in the Shields River to Mission Creek segment of channel, where the photo abruptly ends. Those little brown traces on the poster are the digitized traces of each log visible on high-resolution orthophotos of the streambed. Where that cloud of information ceases is where the orthophotos end. Also shown on that graph, we mapped every eroding bank between Gardiner and Springdale, and we did it on both banks and we did it on the islands in the middle of the channel. That information is also included for Geosegment 11 for the Mission Creek channel reach. Those two things are plotted on the same map; and before we came over here, Jim looked at those and was kind of scratching his head and wondering what they had in common, and why they're plotted on there. What they have in common is that they are both bits of information that we just finished the data collection on last week. We haven't done any analysis with it, but felt we wanted to get it on the table as something that we have. Why are we looking at the large woody debris? Because it is significant as an element of channel stability and instability. Of course, it has high biological significance as fish habitat. In many heavily-modified stream channels (heavily-revetted), there is a lack of large woody debris. The stuff that gets in there shoots through, and the banks are cut off and there isn't a lot of recruitment from active riparian forests. So what we are going to do is basically digitize the large woody debris visible at low flow on the 1999 orthophotos, both within the active channel and out on the flood plain. What I'll do on a reach-by-reach basis—using heavily modified and non-modified reaches—is look at: how much woody debris is in each reach; where it is located; how much is it within the bank-full channel boundary; and how much is on the flood plain. I think that will tell us several things. It'll give us an idea of what the effect of channel modification has been on the presence or absence of large woody debris, and it will probably also tell us something about if there are segments of the Yellowstone River where there are significant enough accumulations that it has had an effect on lateral migration rates, or historic channel changes.

**Roy Aserlind:** In your presentation, you mentioned that you had about 1,000 changed polygons. In this digitized process, will you be able to analyze the percentage of these changed polygons, if they're based on man-made or natural processes?

**Chuck Dalby:** That too is a good question; and the honest answer is, "I don't know?" We'll look toward that. I think it is very difficult to make those kinds of associations over 15 miles of channel, with a lot going on. I think if you're going to try to relate cause and effect, and the effects are not wholesale (huge changes in the river system), then you have to resort to high-resolution analyses. The use of 3-D channel mapping that USGS-BRD has done can tell quite a bit about more subtle changes in the channel that are brought about by channel modification. One thing that I do expect to come out of that analysis, and especially the sum of a bunch of analyses, is changes in sediment and bedload transport. In the channel reach that extends from Carter's Bridge up through a portion of the spring creeks; that is a segment of channel that I think portions of it are actively incising and aggrading. By going through that kind of change analysis—estimating sediment budget for that reach—that will tell us something about the net flux of bed material through there. And if we see that there's a lot more coming out than is going in, then that is a pretty clear indication of channel incision. And in that case, it's related to channel constriction and modification.

**Andy Dana:** I recognize that you think you overestimated the length of the side channel increase between 1948 and 1999. I just did a very rough calculation—and I went to law school, I'm not an accountant, so I could be wrong—but your figures show about 26½ miles of increased side channel development in that period. How large of an overestimate, just ballpark, do you think your mistake or your oversight might be?

**Chuck Dalby:** In the two channel reaches that I looked at, and I didn't remap them, just looking at them and saying, "Oh boy, I missed that"; it's at least on the order of 20 percent of that area.

**Andy Dana:** So, overall there probably was an increase in side channel development. You're not going to find that the error was so big that it's going to completely negate it, are you?

**Chuck Dalby:** That is my best estimate at this point, but we'll know soon. I'm glad you asked that because there are a couple things I wanted to point out about the side channel analysis. One is, at some point in the near future, it's going to be pretty essential to get a fish biologist or two involved in that analysis because all side channels are not alike, and I think we need to add some specificity and wisdom to that analysis that I don't have. Then the other thing is, side channels are formed and rejuvenated by large events, so I would expect there to be some new side channels cut and developed during the 1999 flood. If that happened and they are still well connected to the river channel, that's good; but the effects of a large event like that could have also been to cut some new side channels, but also incise the channel and leave them not very well-connected to the mainstem.

**Andy Dana:** If large floods are responsible for creating side channels, does that mean that the river between those large flood events has a tendency to naturally incise anyway?

**Chuck Dalby:** The natural tendency of most river channels in glaciated regions, which is much of Montana, is toward incision and degradation. That's because the basic form and structure of those systems—and the Yellowstone is a good example—since deglaciation, there's been a huge change in hydrologic regime and sediment load, and the response of channels to that is toward incision. I think that's kind of a natural, overall, tendency in large floods. And I think we see this on the Yellowstone. There are areas where side channels were cut and they were undergoing slight aggradation; there was a net positive balance of sediment in that channel reach, and those maintained good activity in the main channel, good bed elevation relationship. I think there are some other areas where that happened; where the tendency was more toward channel incision and the sediment, which was brought into the Yellowstone in the 1996 and 1997 floods, is still working through the system. Over some period of years, I don't know how long it is going to take for that to get through there, but once it moves through, the natural tendency toward incision may once again be dominant. Let me give an example. When I look at the amount of gravel mining and channel constriction that has taken place in the Livingston urban area, I am surprised that we haven't seen maybe five to ten feet of channel incision in some of those areas. The possible reason it hasn't happened is the Yellowstone River is a very coarse-bedded channel, and as it incises it develops a natural lag armor that tends to inhibit incision. But another possible reason is that right now, the sediment balance through that reach I think is fairly positive. There is a lot of material moving down through there that was generated by the 1996 and 1997 floods. Ten years from now, who knows what happens in the interim in terms of flood events; but if that material works through there, one may see something very different than incising. So there's kind of a cyclical channel response that one has to anticipate.

**Andy Dana:** So I guess your answer is "yes." I have two other questions that hopefully won't take as long to answer. One is, and I think you may have gotten to that in your answer, even if there is some incision in the channel, are you seeing mitigation of the downcutting through the infusion of large sediment from those high banks? Is that a natural process?

**Chuck Dalby:** Yes, that is a possibility.

**Andy Dana:** And then the second question is, when you get through your model development, are you going to be able to make some estimates or have some predictive capability of the effects of removal of some of the bank stabilization structures that have been in there for years? So that if you take a riprap bank off, are you going to be able to see what happens downstream, upstream?

**Chuck Dalby:** In terms of something similar to the USGS-BRD's presentation, that's relatively easy to do. If you take a river channel with some barbs or other channel modification structures, and look at the 2-D flow hydraulics, and then mathematically take those structures out and recompute the flow hydraulics, that's a pretty straightforward exercise and I think you can do that. What you can't do is predict, on that basis, the response of the channel to taking that structure out; how much it would erode laterally, or whether it would migrate a certain amount this way and downstream. It is possible to do that.

When we first started this project, some USGS Helena folks toured the basin with Jim Smith, who is probably the Geological Survey's premier sediment transport predictor and modeler. We were up in the vicinity of the cutoff channel by the inlet to the Livingston Ditch, and we talked about what happened during the 1996 and 1997 floods. And I made the comment that that would be very difficult to predict, in an extreme event under any circumstances, and got a huge ration of grief. Jim Smith thought that would be perfectly easy to predict. I

asked him what it would take, and he said “five years and \$5 million bucks.” So, then we agreed that that was completely absurd and there was no point in trying to do something like that. We can, I think both with barbs and riprap, we can use some engineering literature, some empirical work. For example, there have been a lot of good, large-scale flume studies done on what Jim and I are referring to as “point structures” (barbs, jetties, groins); there’s about half a dozen different descriptive terms. For example, there’s been research that shows that if it is 30 degrees upstream at an angle to the bank, it’s a barb; if it’s usually sticking straight out into the channel, it’s something else; if it’s pointing downstream it’s called something else. But, if the length of that structure that protrudes into the channel remains constant, the amount of downstream bank protected is the same. It doesn’t make any difference whether it points upstream or it points straight out, or downstream. The only thing that changes is the position and the geometry of the scour hole created by it; and with a barb, you get a bigger scour hole. Similarly, there’s information on riprap and scour adjacent to banks. I think we can make some good estimates of effects on the channel by putting things in. Taking them out, we’re in the realm of speculation with the information we have.

**John Bailey:** Further questions from the Task Force? I’ll open it to the public too now.

**Bill Moser:** You mentioned in your report several times “left bank, right bank”. Is that facing downstream or upstream?

**Chuck Dalby:** It is downstream.

**Bill Moser:** Okay, thank you. The pictures that were with the bar graphs, that were for comparison of the riverbanks, those were all the 1999 flow of the river, rather than the three different years, right? In other words, it was one year reproduced three times for the purpose of showing, rather than having three different years, pictures up there?

**Jim Robinson:** Right. What I showed you is the same channel trace, the maps with the green background and blue trace of the river [Slides 28,32,33,37,38,42,44,47]. That was the same channel trace of the river, 1999, it was the NWI [National Wetland Inventory] map channel trace. Overlaid on that were the structures maps from the years 1954, 1973, and 1999. Did that answer your question?

**Bill Moser:** Okay. Thank you. One more, not to tie it up but, you had at least five different lengths of the river in your report, running between 85 and 87 miles, and of course as you add length to the river, you reduce the percentage of whatever we’re talking about, and so it would be good to know what the length of the river actually is.

**Chuck Dalby:** You bet. You’ll find this interesting. All of those lengths are correct. When we talk about the length of the study area, we’re not talking about the length of the channel. So I think there’s a number in there—I forget what it is, 83 or 84 miles—that’s the length of the corridor, that’s not the length of the channel. The mainstem channel length comparison for 1948/1949 to 1999 that was presented is a single one. There are some areas in the channel where the channel bifurcates around an island, and you really have two main channels on either side of the island, even at low flow. The normal circumstance is that when you have an island and divided flow, usually one channel is dominant and the other one becomes an anabranch or what I would call a gravel bar related side channel at low flow. But those length comparisons only use a single line, and that number, 450,000 feet or whatever, is the precise, center-line, exact dead center of the channel from Gardiner to Springdale. The other number that is used as a length comparison figure is in the table where we estimated the length of channel by channel type. And the number in there includes that divided island main channel, which gives you a little difference in the numbers. When I read quickly through the report before it went out, I noticed those differences and thought about them and decided that we’d see if some perceptive individual picked up on those changes, and sure enough.

**Mike Merigliano:** On that same topic, have you thought about using “total sinuosity” or at least “total channel length” (all of the side channels plus the main) and seeing if there is a difference there over the years?

**Chuck Dalby:** It would be interesting to do that because if the 1999 numbers are correct, there’s as much length in side channels as there is in the mainstem length, from Gardiner to Springdale. Although the side channels—I really wish the poster would have turned out—but when you plot the side channels, just a simple

line diagram of the mainstem against channel type, it's very clear where the side channels are, and what they are associated with. I think we'll try that; that would be a good comparison.

**Bill Moser:** I assume that you're showing your bar charts there to show trends, and I recognize that you've taken the aggregate because that's what affects the river, but it would be very curious to break out all of the infrastructure that was done in all three of the years you compared, delete that completely, and just look at the channel modifications that have nothing to do with infrastructure. I think that what you would see would give the Task Force a much better handle on what they are actually trying to do with what trends are occurring away from the river, away from Highway 89 and things of that nature.

**John Bailey:** Bill, what do you mean by infrastructure? Government?

**Bill Moser:** You have the railroad, the roads that were built, East River Road was riprapped because that was the main highway before the first set of pictures, so that riprap shows up. But if you take all of these things that were put in as infrastructure, either protecting of houses...

**John Bailey:** Well, my question is, do you take out everything that was done through Livingston, because Livingston is infrastructure? That's why I am asking the question. I don't know where you stop.

**Bill Moser:** Livingston would probably be infrastructure, and so you'd be looking then at what the trends were that are non-government, non-railroad, etc.

**John Bailey:** Bill, we've moved into a more general discussion here. I want to move to the General Discussion for this, because we've moved on. Any more questions on the science? Okay, I would like to thank Chuck and Jim very much. Now I'd like to move into the General Discussion.

#### **4. General Discussion Session**

**John Bailey:** You are now trying to exclude government to just aim at individual landowners. I guess I don't quite understand why you want to just nail on individual landowners and give government a free ride?

**Bill Moser:** Because the things that were done for infrastructure are not something that anybody is going to have any control over. You're not going to take away the entrance to the first national park by erosion or whatever. And there is a possibility of looking at how certain areas affect the river otherwise, and the growth; where the growth is. In all probability, you have an East River Road project coming up, and if they do what they say they want to do on that road, you're going to have a whole lot more bank stabilization along the East River Road again.

**John Bailey:** And that's why we should include them, and that's why if a new bridge goes in, if we've excluded that, we have no data to say "When you do it, make it wider." They are almost the biggest influence on the river because they are so massive. You're excluding them from future decision making; I think you're making a mistake.

**Bill Moser:** No, they've already looked at this, they have the data of the gross work. But if you are looking at trends, and you take out the government, then you have an entirely different view of what the trends are on the river.

**John Bailey:** Well, that's your idea. Other discussion?

**Andy Dana:** I'm sorry but this is a question of the scientists again. Are we going to have the benefit of seeing, at least on paper, your follow-up work? Say in a couple of weeks, or so?

**Jim Robinson:** Certainly. I plan to document, and have documented, all the work that I've done. We just showed you a small percentage of the data that has been collected just for the purposes of giving you an overall impression. I think, particularly the stuff that Chuck has talked about, we've got a timeline set for some of that stuff.



**Chuck Dalby:** We do. It's a graduated timeline. I think much of the analysis we can write up and have some sort of a draft report out in about a month, at least the historic channel change analysis. Some of the other work that we are doing, the sediment budget analysis, that's going to take quite a bit of effort, and we need information from some of the other project participants to really do that. So, I think that's more like two months down the road. I guess what I would propose or hope that we can do, is for example, the side channel analysis. As soon as we have that corrected and written up and distributable, just put that out as a little report and at least get it to the Task Force members so that they've got something to hold, and look at, and chew on.

**Bob Wiltshire:** I guess we've heard all the science reports now, and I see things that we're not going to have answers to, we're going to have to struggle with making decisions and recommendations. We've always said we were going to be science driven, and yet we don't have the science. I don't know where that leaves us; it's a comment and not a suggestion.

**Andy Dana:** My thought is that we have more science than we did have, so we might be able to make some recommendations based on the science that we have.

**Bob Wiltshire:** I totally agree with that. It's unfortunate because the nature, in my experience, of scientific experimentation is that it teaches you what questions you need to answer next. And we're certainly seeing that; but if Chuck and Jim can get us follow-up information in their reports, maybe we can incorporate it. I look up at our Topics of Consideration and I see Number 4 there is woody debris, and I see us struggling with having a scientific basis for our discussions.

**Robert Ray:** Bob, I'd just like to respond by saying that you're never going to get 100 percent certainty, science will never get you that. So, if you're waiting for "the answer", you'll be waiting a very long time. I think the purpose of the Task Force is to, based on the information that we tried to put together, come up with some reasonable recommendations. And I think the Task Force can do that.

**Jerry O'Hair:** Chuck, can you answer a question for me? On one of your graphs you had the Trail Creek area listed on the bottom of the graph, and I just wondered where that area is?

**John Bailey:** It was the one that had the sediment loads.

**Chuck Dalby:** I'd better get on the 1999 photos. All these banks had to have a name on the map that I looked at, at the time. There was somewhere in this vicinity, one of the old tributaries of Trail Creek that comes through there, and that was the closest geographic feature, so that's what I called it.

**John Bailey:** Other discussion from the Task Force? Okay, anybody from the public on discussion?

**Bill Moser:** I'd like to take just a minute to go back to verify. What it looks like with this sediment thing is that there isn't very much material moving down the river. In a year it looks like, a typical year, it looks like about a football field five and a half or six feet tall. There is a way to validate the science that has been presented here, and that is to use the work that Dick Eggar did. He had two drag lines, every year for 35 years he pulled out between 4,000 and 6,000 yards of material. It was all fines and pea rock from the same place every time. And because he was using a drag line, where he was getting it from, the river continually filled the same material back into the same two holes. If you take the low-flow average and can come up with why you're getting the same 4,000 to 6,000 yards every year, then you have verified your model for these guys and the models for the GS people. And it should be fairly simple to do that because you can still go down there and see where the drag lines start. He didn't pull cobbles out, he never used a crusher, and he was there for over 35 years; he was, basically, what built Livingston. Livingston is plaster houses and stucco, and it all came from these same two drag lines, year after year.

**Jim Robinson:** If there are records available on how much he harvested on an annual basis, that would be useful information. Are you talking about the operation that existed there off of Siebeck Island?

**Bill Moser:** Yes.

**Chuck Dalby:** There are a lot of bizarre and ingenious methods for measuring bedload transport out there, and all sorts of highly sophisticated samplers, and electronic, and magnetic, and you name it. But a group of Canadian researchers who are getting back to the basics have decided that much of that information is all point samples—it's very hard to get a good aggregate average value. And so the approach that they use is they take 55 gallon drums, or larger, and cut them in half. They go out to a gravel bar and bury 50 of these things a couple feet into the channel, and then come back after a flood flow and pull everything out, measure it, and weigh it, sieve it, then use that to develop aerial estimates of bedload transport. And they are generally considered to be much more accurate than anything else. So, it's not farfetched.

**John Bailey:** Well Bob, I've been very pleased with the research, and it's made me reconsider many of the thoughts I've had. It's made me think that the river is functioning better than I might have thought. It certainly will be interesting once we move into the discussion and see some of these areas that I once thought might be of concern, and if anyone else does, or visa versa. This thing about the side channels expanding since 1948 to this degree; if you would have told me that they were going to come in and tell us that difference, I would have said that they would have had to have shrunk, because we've done so much on the river, everyone says we've done so much to the river. I think we've seen several things, and I think that as we start to piece it together, and talk about them, a lot of things have changed, in my mind, on viewing the river. And I think, by being able to do that, we've been very successful. What I thought we might have done when we started this, I think we've gone way, way beyond that, and I'm very happy that we've got lots of questions at the end. I think that means that we've made ourselves think, we've got new ideas. Andy Hansen talked about how we still have options here, from what he saw over in the Gallatin, they've sort of lost themselves. I think we've seen a lot of positive things from the data. What we can actually come up with as recommendations will be interesting, but I'm very pleased.

The next Task Force meeting is May 6<sup>th</sup>. We're going to have a public meeting and just for anyone's knowledge, we are going to tape all the testimony that comes in and print it so it will be part of the record. Some of us have had different discussions on how many people are going to come to speak at this public meeting and Liz thinks the room is not big enough. I think we'll get done in time to actually start our discussion on the Topics of Consideration. My plan is, once the public testimony is completed, to start our final recommendation approach and start talking. I'm certainly hoping we can do that, so at least we get our feet wet on May 6<sup>th</sup>. And if we realize that we need more structure for the next meeting, then maybe we can try to figure out how to do that. But I really hope that we can start that next time, otherwise we start at the end of May [at the May 22<sup>nd</sup> Task Force meeting]. We're going to be working our way through that and trying to get that process to work, and I assume that once we've done one, it's going to move much smoother. That is my hope for the next meeting. If the room is filled like Liz thinks, then we won't get there.

**Bob Wiltshire:** I was looking at the public meeting format, and I would just make a suggestion that we stick with our typical meeting agenda format and review the minutes and financial update before we take public comment.

**John Bailey:** I suggested otherwise, and I'm going to stick with that because if we do not have a quorum, then we cannot take the public testimony; but there is nothing to prevent us from taking the public testimony without the quorum. Now, if you want to do it the other way, then we can't have that meeting if a quorum is not here.

**Bob Wiltshire:** I see what you're saying, that's fine. I can live with that.

**John Bailey:** We had once talked about a couple people going and taking public testimony, and that's one of the reasons I also insisted to Liz that we were going to print the whole thing. If one of the reasons we're doing this is to put it in the record, someone has to be able to see it, and if it's written, then it is part of the record. I said to her, if we're missing one person, we're dead, so that was why I did that, if that's okay.

**Andy Dana:** If you hope that we're going into the process of considering where we're going, are you hoping that we will have a quorum?

**John Bailey:** Yes.

**Andy Dana:** I guess my second question is, we had talked at the last meeting about trying to identify a couple of topics per meeting to develop recommendations on. Are you thinking that we should do that before next week?

**John Bailey:** I assumed we'd do Number 1 Bank Stabilization.

**Andy Dana:** Okay.

**Liz Galli-Noble:** And that means everybody has to start going back through that big comment summary packet in preparation for the May 6<sup>th</sup> meeting. I will give you additional comments from this meeting as soon as possible, but you've already got 90 percent of it.

**Andy Dana:** My concern about that is that is it unfair to Liz to ask her to do the minutes of this meeting before next Tuesday? And that the minutes from this meeting are probably going to be crucial to the bank stabilization studies. Maybe we want to pick another topic.

**Kelly Wade:** This meeting? I can get the minutes done this weekend and get them to Liz by Monday. Because if you finish soon, the minutes will not be too long; we only have one tape so far.

**Andy Dana:** That only leaves one night for the Task Force to review the minutes before our consideration of recommendations.

**John Bailey:** Are you suggesting another topic then?

**Andy Dana:** I'm suggesting that Bank Stabilization, after tonight's presentation, might not be the best one to tackle next week.

**John Bailey:** Which one would you like to tackle?

**Andy Dana:** Woody Debris. No, I'm open to suggestion. I'm just saying that we may need some time to digest the presentation tonight before tackling bank stabilization. We can always revisit it.

**John Bailey:** My sense is that bank stabilization almost includes everything. That maybe starting there doesn't mean that we're going to get to Step 2 that first night, but I think it is going to expose this, and if we need to start creating some structure, or asking Liz to give some structure to what we're doing, or whatever we decide, that we have some time before that later May 22<sup>nd</sup> meeting, and then we can move. It just seems like bank stabilization is the core.

**Andy Dana:** That's fine.

**John Bailey:** I don't think we have to finish at all. I think we need to get started. Does everyone agree?

**John Bailey:** Anything else tonight? I thank you all and we are adjourned.

**VII. Next Task Force meetings:**

**May 6<sup>th</sup>, 2003, Tuesday – (a) Public Meeting (listening session)  
(b) Task Force Recommendation Deliberations  
Location: Yellowstone Inn**

**May 22<sup>nd</sup>, 2003, Thursday – Task Force Recommendation Deliberations  
Location: Yellowstone Inn**

**VIII. The meeting was adjourned at 10:00 p.m.**

## **Attachment A. Steps for Formal Action on Task Force Recommendations**

### **Governor's Upper Yellowstone River Task Force DRAFT—April 10, 2003 *Steps for Formal Action on Task Force Recommendations***

On April 29, 2003, the Task Force adopted the following process for development of recommendations and for adoption of final recommendations to be submitted to the Governor.

#### **1. General Discussion Session to Develop Recommendations**

- a. The Task Force will convene meetings to consider proposed recommendations that pertain specifically to the *Topics of Consideration* list previously adopted. The Task Force Chair will oversee and run each meeting according to the procedures set forth below. Issues, comments, concerns, and draft recommendations related to the *Topics of Consideration* under discussion, which have been raised and recorded after the eight research presentations, will be revisited by the Task Force and the public. New comments, concerns, and recommendations may also be raised and recorded.
- b. Task Force members speak first and when they have no further comments, members of the public will be asked for their comments. The Task Force Chair is responsible for ensuring comments remain concise and that they relate to the *Topics of Consideration* under specific discussion.
- c. Upon conclusion of the comment and discussion period in each meeting, the Task Force will propose recommendations formally in accordance with the procedures set forth in Paragraph 2 below.

#### **2. Formal Actions on Recommendations**

- a. All recommendations must be proposed by a voting Member of the Task Force and must be clearly stated and recorded.
- b. The Task Force Chair restates each recommendation made and asks the Task Force for final concerns and questions relating to each recommendation.
- c. The Task Force Chair calls for consensus on each recommendation made.
- d. The Task Force formally adopts recommendations that achieve consensus, subject only to modification at the final meeting as set forth in Paragraph 3 below.
- e. If any recommendation fails to achieve consensus, the Task Force may continue to consider that recommendation and may again seek consensus after further discussion, may defer action on the recommendation until a future meeting, or may decide to abandon the effort to obtain consensus on that particular recommendation. (Note: Task Force Ground Rules: *Participants who disagree*

*with a proposal are responsible for offering a constructive alternative that seeks to accommodate the interests of all other participants.)*

### **3. Adoption of Final Set of Recommendations**

- a. Prior to finalizing its recommendations to be forwarded to the Governor, the Task Force will accept public comment (written only) on the recommendations previously adopted in Step 2.

**b. At its last meetings during which the Task Force finalizes the complete set of recommendations to be forwarded to the Governor, Task Force Members may not propose new recommendations but may propose modifications, amendments, or deletion of any of the previously adopted recommendations in Step 2 for any reason, including but not limited to:**

- i. To address concerns expressed by a Task Force Member's constituency or the public about the original recommendation;
  - ii. To eliminate potential conflicts between recommendations;
  - iii. To delete redundant or duplicative recommendations;
  - iv. To integrate scientific studies and data more efficiently into the recommendations; or
  - v. To correct clerical, typographic, transcription, grammatical, or rhetorical errors.
- c. The Task Force will adopt for transmittal to the Governor a complete set of recommendations based on the individual recommendations adopted by consensus pursuant to Step 2 above, as such recommendation may be modified, amended, or deleted by consensus pursuant to Step 3b above.
- d. The final set of recommendations must be approved by the Task Force for transmittal to the Governor by consensus.